

1 **Amendments to the Claims**

2 **In the Claims:**

3 Please cancel Claims 56, 57, 66, 75, 76, and 93.

4 Please amend Claims 24, 50, 51, 52, 54, 60, 61, 88, 89, and 92 as follows.

5 1-23. (Canceled)

6 24. (Currently Amended) A videoendoscopic surgery trainer for the practice of
7 videoendoscopic surgery techniques, the trainer comprising:

8 (a) a housing defining a practice volume, the housing defining an opening through
9 which a plurality of practice surgical tools are introduced into the practice volume;

10 (b) a simulated laparoscope comprising:

11 (i) a handle having a size and shape simulating a medical laparoscope;

12 (ii) an elongate member extending from a distal portion of the handle into
13 the practice volume;

14 (iii) a digital video camera coupled to a distal end of the elongate member,
15 such that manually changing a position of the proximal end of the elongate member results in a
16 change in a position of the digital video camera, the elongate member movably supporting the digital
17 video camera externally of the elongate member, the digital camera being thus disposed within the
18 practice volume, the digital video camera being configured to capture a plurality of frames per
19 second, such that the digital video camera can provide a digital video feed of at least a portion of the
20 practice volume; and

21 (iv) a data cable having a proximal end and a distal end, the distal end being
22 logically coupled to the digital video camera, the proximal end being configured to logically couple
23 to at least one of a display and a computing device, a first portion of the data cable extending from
24 the digital video camera and the handle being disposed inside the elongate member, a second portion
25 of the data cable extending from the handle to the proximal end of the data cable, the second portion
26 of the data cable extending outwardly and away from a proximal portion of the handle, the data cable
27 being configured to be coupled to a computing device; and

28 (c) a support structure for movably supporting the simulated laparoscope relative
29 to the housing, the support structure being coupled to an upper portion of the housing, the support
30 structure comprising:

1 (i) ~~an elongate member, the elongate member having a proximal end~~
2 ~~disposed outside of the practice volume, and a distal end disposed inside the practice volume, the~~
3 ~~digital video camera being coupled with the distal end of the elongate member, such that manually~~
4 ~~changing a position of the proximal end of the elongate member results in a change in a position of~~
5 ~~the digital video camera, the elongate member movably supporting the digital video camera~~
6 ~~externally of the elongate member;~~

7 (ii) —a first adjustable bracket configured to engage the ~~first~~ elongate
8 member, such that an amount of the ~~first~~ elongate member disposed within the practice volume can
9 be increased and decreased as desired;

10 ([[iii]]ii)a second adjustable bracket configured to movably support the ~~first~~
11 elongate structure, to enable a position of the digital video camera coupled to the distal end of the
12 elongate member to be tilted; and

13 ([[iv]]iii)a support member configured to support the second adjustable bracket
14 and to pivotably engage the housing, the support member having a proximal end disposed inside the
15 practice volume, to enable a position of the digital video camera coupled to the distal end of the
16 elongate member to be panned;

17 wherein the simulated laparoscope and support structure are disposed relative to the
18 opening such that a student positioned at a front of the housing can use his hands to manipulate the
19 simulated laparoscope, the support structure, and the plurality of practice surgical tools without
20 having to move away from the front of the housing.

21 25-48. (Canceled)

22 49. (Previously Presented) The videoendoscopic surgery trainer of Claim 24, wherein the
23 digital video camera is substantially larger than a smallest incision that would be required to insert a
24 laparoscope into a body of a patient.

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1 50. (Currently Amended) A videoendoscopic surgical trainer for practicing videoendoscopic
2 surgical techniques, comprising:

3 (a) a housing defining a practice volume, the housing defining an upper opening
4 through which a plurality of practice surgical tools are introduced into the practice volume;

5 (b) a simulated laparoscope comprising:

6 (i) a handle having a size and shape simulating a medical laparoscope;

7 (ii) a hollow elongate member extending from a distal portion of the handle
8 into the practice volume;

9 (iii) a digital imaging sensor configured to obtain an image of at least a
10 portion of the practice volume and to output a corresponding signal that can be used to generate a
11 video signal to drive a display, the digital imaging sensor being physically coupled to a distal end of
12 the elongate member, such that manually changing a position of a proximal end of the elongate
13 member results in a change in a position of the digital imaging sensor, the elongate member movably
14 supporting the digital imaging sensor externally of the elongate member; and

15 (iv) a data cable having a proximal end and a distal end, the distal end being
16 logically coupled to the digital imaging sensor, the proximal end being configured to logically couple
17 to at least one of a display and a computing device, a first portion of the data cable extending from
18 the digital imaging sensor and the handle being disposed inside the elongate member, a second
19 portion of the data cable extending from the handle to the proximal end of the data cable, the second
20 portion of the data cable extending outwardly and away from a proximal portion of the handle; and

21 (c) ~~a boom configured to support and position the digital imaging sensor, such that~~
22 ~~a position of the digital imaging sensor can be changed with the boom to obtain an image of a~~
23 ~~different portion of the practice volume, the boom having a proximal end disposed outside of the~~
24 ~~practice volume, and a distal end disposed inside the practice volume, the digital imaging sensor~~
25 ~~being coupled with the distal end of the boom, such that manually changing a position of the~~
26 ~~proximal end of the boom results in a change in a position of the digital imaging sensor; and~~

27 (d)——a support member configured to pivotally engage an upper portion of the
28 housing, thereby enabling the digital imaging sensor to be selectively positioned within the practice
29 volume to achieve a panning motion, and to positionably support the boom, thereby enabling the
30 digital imaging sensor to be further selectively positioned within the practice volume;

1 wherein the simulated laparoscope and support structure are disposed relative to the
2 opening such that a student positioned at a front of the housing can use his hands to manipulate the
3 simulated laparoscope, the support structure, and the plurality of practice surgical tools without
4 having to move away from the front of the housing.

5 51. (Currently Amended) The videoendoscopic surgical trainer of Claim 50, wherein the
6 support member is further configured to slidingly engage the ~~boom~~-elongate member, such that an
7 extent by which the ~~boom~~-elongate member extends within the practice volume is selectively variable
8 by sliding the ~~boom~~-elongate member relative to the support member.

9 52. (Currently Amended) The videoendoscopic surgical trainer of Claim 51, wherein the
10 ~~boom~~-elongate member extends from the support member into the practice volume at a substantially
11 non-normal angle.

12 53. (Previously Presented) The videoendoscopic surgical trainer of Claim 50, wherein the
13 support member is configured to enable the digital imaging sensor to be moved in a tilting motion.

14 54. (Currently Amended) The videoendoscopic surgical trainer of Claim 50, wherein said
15 support member comprises:

16 (a) a first adjustable member configured to enable an extent to which the ~~boom~~
17 elongate member extends within the practice volume to be selectively controlled; and

18 (b) a second adjustable member configured to enable a position of the digital
19 imaging sensor within the practice volume to be selectively changed, without also changing the
20 extent to which the ~~boom~~-elongate member extends into the practice volume.

21 55. (Previously Presented) The videoendoscopic surgical trainer of Claim 50, wherein the
22 support member comprises a first portion and a second portion, such that the first portion pivotally
23 engages the second portion, thereby enabling a position of the distal end of the support member
24 within the practice volume to be selectively adjustable.

25 56. (Canceled)

26 57. (Canceled)

27 58. (Previously Presented) The videoendoscopic surgical trainer of Claim 50, wherein the
28 digital imaging sensor is capable of capturing at least thirty frames per second.

29 59. (Previously Presented) The videoendoscopic surgical trainer of Claim 50, wherein the
30 digital imaging sensor comprises a web camera.

1 60. (Currently Amended) A portable videoendoscopic surgical trainer for practicing
2 videoendoscopic surgical techniques, comprising:

3 (a) a housing defining a practice volume, the housing comprising a collapsible
4 frame, the frame defining a plurality of side openings facilitating access to the practice volume, and
5 an upper opening configured to accommodate a plurality of surgical tools;

6 (b) a simulated laparoscope comprising:

7 (i) a handle having a size and shape simulating a medical laparoscope;

8 (ii) an elongate member extending from a distal portion of the handle into
9 the practice volume;

10 (iii) a digital video camera coupled to a distal end of the elongate member,
11 such that manually changing a position of the proximal end of the elongate member results in a
12 change in a position of the digital video camera, the elongate member movably supporting the digital
13 video camera externally of the elongate member, the digital camera being thus disposed within the
14 practice volume, the digital video camera producing a digital video signal conveying images of at
15 least a portion of the practice volume, the digital video camera being movable within the practice
16 volume, such that a position of the digital video camera can be changed to obtain an image of a
17 different portion of the practice volume, wherein the digital video camera is substantially larger than
18 a smallest incision that would be required to insert a laparoscope into a body of a patient; and

19 (iv) a data cable having a proximal end and a distal end, the distal end being
20 logically coupled to the digital video camera, the proximal end being configured to logically couple
21 to at least one of a display and a computing device, a first portion of the data cable extending from
22 the digital video camera and the handle being disposed inside the elongate member, a second portion
23 of the data cable extending from the handle to the proximal end of the data cable, the second portion
24 of the data cable extending outwardly and away from a proximal portion of the handle, the data cable
25 being configured to be coupled to a computing device; and

26 (c) a support structure movably supporting the digital video camera without
27 substantially enveloping the digital video camera, thus enabling the digital video camera to be
28 movably positioned within the practice volume to change a position of the digital video camera so as
29 to obtain an image of a different portion of the practice volume;
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1 wherein the simulated laparoscope and support structure are disposed relative to the
2 opening such that a student positioned at a front of the housing can use his hands to manipulate the
3 simulated laparoscope, the support structure, and the plurality of practice surgical tools without
4 having to move away from the front of the housing.

5 61. (Currently Amended) A videoendoscopic surgical trainer for practicing videoendoscopic
6 surgical techniques, comprising:

7 (a) a housing defining a practice volume and an upper opening through which a
8 plurality of practice surgical tools are introduced into the practice volume;

9 (b) a simulated laparoscope comprising:

10 (i) a handle having a size and shape simulating a medical laparoscope;

11 (ii) an elongate member extending from a distal portion of the handle into
12 the practice volume;

13 (iii) a digital video camera disposed within the practice volume, the digital
14 video camera producing a digital video signal conveying images of at least a portion of the practice
15 volume; [[and]]

16 (iv) a data cable having a proximal end and a distal end, the distal end being
17 logically coupled to the digital video camera, the proximal end being configured to logically couple
18 to at least one of a display and a computing device, a first portion of the data cable extending between
19 a location inside the practice volume proximate the digital video camera and the handle being
20 disposed inside the elongate member, a second portion of the data cable extending from the handle to
21 the proximal end of the data cable, the second portion of the data cable extending outwardly and
22 away from a proximal portion of the handle, the data cable being configured to be coupled to a
23 computing device; and

24 [[c]]v) a support structure disposed within the practice volume, the support
25 structure being supported by a base of the housing, the digital video camera being coupled to and
26 supported by the support structure, the support structure enabling the digital video camera to be
27 movably positioned within the practice volume to change a position of the digital video camera so as
28 to obtain an image of a different portion of the practice volume, the support structure movably
29 supporting the digital video camera without substantially enveloping the digital video camera;

1 wherein the simulated laparoscope and support structure are disposed relative to the
2 opening such that a student positioned at a front of the housing can use his hands to manipulate the
3 simulated laparoscope, the support structure, and the plurality of practice surgical tools without
4 having to move away from the front of the housing.

5 62. (Previously Presented) The videoendoscopic surgical trainer of Claim 61, wherein the
6 digital video camera is substantially larger than a smallest incision that would be required to insert a
7 laparoscope into a body of a patient.

8 63. (Previously Presented) The videoendoscopic surgical trainer of Claim 61, wherein the
9 support structure includes at least one of a ball head that enables the digital video camera to pan and
10 tilt, and a pan and tilt head.

11 64.-69. (Canceled)

12 70. (Previously Presented) The videoendoscopic surgical trainer of Claim 61, wherein the
13 housing comprises a replaceable top panel.

14 71. (Previously Presented) The videoendoscopic surgical trainer of Claim 61, wherein the
15 digital video camera comprises a web camera.

16 72.-87. (Canceled)

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1 88. (Currently Amended) A method for using an imaging device to enhance a session of
2 endoscopic skills training, comprising the steps of:

3 (a) introducing at least one exercise object into a practice volume of a surgical
4 trainer that includes a simulated laparoscope, the simulated laparoscope comprising:

5 (i) a handle having a size and shape simulating a medical laparoscope;

6 (ii) an elongate member extending from a distal portion of the handle into
7 the practice volume;

8 (iii) a digital imaging device coupled to a distal end of the elongate member
9 and disposed within the practice volume, the digital imaging device producing a digital video signal
10 conveying images of at least a portion of the practice volume; and

11 (iv) a data cable having a proximal end and a distal end, the distal end being
12 logically coupled to the digital imaging device, the proximal end being configured to logically couple
13 to at least one of a display and a computing device, a first portion of the data cable extending between
14 a location inside the practice volume proximate the digital imaging device and the handle being
15 disposed inside the elongate member, a second portion of the data cable extending from the handle to
16 the proximal end of the data cable, the second portion of the data cable extending outwardly and
17 away from a proximal portion of the handle, the data cable being configured to be coupled to a
18 computing device;

19 (b) using the digital imaging device to produce a signal conveying images of the at
20 least one exercise object from a first position within the surgical trainer while using a surgical tool to
21 manipulate the at least one exercise object, wherein the digital imaging device is substantially larger
22 than a distal end of a conventional laparoscope, such that the digital imaging device is too large to
23 pass through an incision used to introduce such a conventional laparoscope into a patient;

24 (c) displaying the images of the at least one exercise object conveyed by the signal
25 in regard to the first position;

26 (d) manually adjusting a first bracket and a second bracket in order to manipulate
27 ~~a boom~~ the elongate member that movably supports the digital imaging device at ~~[[a]]~~ the distal end
28 of the boom-elongate member, so that the imaging device produces a signal conveying images of the
29 at least one exercise object from a second position within the surgical trainer; and
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1 (e) displaying the images of the at least one exercise object conveyed by the signal
2 in regard to the second position, such that the simulated laparoscope and the at least two brackets are
3 disposed relative to the opening such that a student positioned at a front of the surgical trainer can use
4 his hands to manipulate the simulated laparoscope, the at least two brackets, and the surgical tool
5 without having to move away from the front of the housing.

6 89. (Currently Amended) The method of Claim 88, wherein the step of manipulating the
7 boom further comprises the step of locking the ~~boom~~-elongate member once the imaging device is
8 positioned to produce the signal conveying images of the simulated anatomical structure from the
9 second position, to prevent undesired further movement of the imaging device.

10 90. (Previously Presented) The method of Claim 88, further comprising the step of
11 transmitting data over a network that can be used to display images collected by the imaging device.

12 91. (Previously Presented) The method of Claim 88, further comprising the step of storing
13 data that are usable to display images collected by the imaging device after the session is complete.

14 92. (Currently Amended) The method of Claim 88, wherein the step of manipulating the
15 ~~boom~~-elongate member further comprises at least one of the steps of:

16 (a) zooming the imaging device closer to the at least one exercise object, to move
17 the imaging device from the first position to the second position;

18 (b) zooming the imaging device farther from the at least one exercise object, to
19 move the imaging device from the first position to the second position;

20 (c) panning the imaging device to move the imaging device from the first position
21 to the second position; and

22 (d) tilting the imaging device to move the imaging device from the first position to
23 the second position.

24 93. (Canceled)